NASIS

National Soil Information System

Briefing Notes April 2001 Number 1

information system tools for soil survey

NASIS is a comprehensive information system for collecting and managing soil data and distributing soils information. It is the system that produces soil data and information required by the agency.

NASIS Vision

To provide everyone with meaningful soils information and immediate access to nationally complete and up-to-date soils data at any time from any location and guarantee the security and integrity of those data.

NASIS Background

Several years ago, the Soil Survey Division recognized that increasing demands on soil survey data required that we respond to rapidly changing data needs, manage vast amounts of data, deliver those data in a timely manner, and ensure the integrity, quality, and consistency of those data. Our existing systems did not have the capacity, nor were they designed to meet those needs. NASIS is designed to remove the constraints of the previous systems and be as flexible as possible to meet our needs well into the future.

Benefits to the Public

- complete, consistent, and up-to-date information available at any time
- interpretations and data tailored to local needs
- seamless soil survey coverage
- compatibility with other natural resource information

Benefits to NRCS

- new capabilities required to manage MLRA soil surveys and support technical soil services in the field
- guaranteed integrity and security of soil survey data
- elimination of redundant or out-of-date information
- flexibility to change organizational structure and program focus without affecting the system

Current Status

The NASIS 5.0 Central Server is installed and operational at the USDA Web Farm in Fort Collins, Colorado. Soil scientists throughout NRCS, other federal agencies and universities have access to NASIS, but slow performance

of network communications continues to be a concern. Data required for SSURGO, the Customer Service Toolkit, and other operations is being provided from NASIS.

NASIS development is not yet complete. Spatial data are not integrated in NASIS and delivery of versioned and archived data from a soil data warehouse is not implemented.

Development Strategy

NASIS developers use proven software engineering methods. The Soil Survey Division defines business objectives, the Information Technology Center designs and codes the system, and the Soil Survey Division implements the system. Essential roles and responsibilities are clearly understood. Soil Survey Division and ITC have an excellent, highly productive, and closely coordinated working relationship.

Major Parts of NASIS

NASIS data and functions are divided into five major areas:

- mapunit data (text and tables for manuscripts)
- point data (soil profile descriptions and laboratory data)
- spatial data (soil maps)
- concepts and standards (Soil Taxonomy, Soil Survey Handbook)
- operations and management (soil survey schedule and progress reporting)

Development in each of these areas is prioritized and implemented as soon as practicable.

Federal Geographic Data Committee

NASIS developers are active participants on the FGDC soils subcommittee, and NASIS attributes provide a basis for the FGDC soils standard.

Data Rich – Information Poor

NASIS incorporates the client-server design and other features recommended in the Blue Ribbon Panel report.

Critical Success Factors

- adequate network communications
- development of soil data warehouse and gateway
- training in new capabilities and business philosophies
- business analysis for spatial aspects

For More Information

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See also:

- http://nasis.nrcs.usda.gov/index.html
- National Soil Information System Technical Approval #NRCS-97-01